REMARKS

The pending claims are 1-30. Claim 1 has been amended to correct typographic errors. The specification has also been amended to correct typographic errors. No new matter or substantive changes have been introduced therein.

Claims 1-2, 5-6, 8-15, 17-19, 21-23 and 25-30 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Leupp et al. (U.S. Patent No. 3,863,332). The rejections are respectively traversed.

Lines 6-8 of claim 1 recite:

> forming a second layer of the at least one electrode on a portion of the first layer of the at least one electrode substantially surrounding the precise pattern of the at least one island.

Lines 6-7 of claim 2 recite:

> a second layer formed in contact with the first electrode layer and substantially surrounding the at least one island of the precise island pattern.

Lines 5-8 of claim 17 recite, in part:

> forming a high conductivity material on the surface of the electro-optical device;
>
> wherein the high conductivity material is in electrical contact with the transparent electrode material.

Lines 5-7 of claim 18 recite:

a second electrode layer having a higher conductivity than the first electrode layer and being formed in a second area of the surface, the second electrode being electrically coupled to the first transparent electrode layer.

Page 3 of the Office Action contends that Leupp shows "a second conductor layer (spacer 25/33) including a plurality of sub-layer[s] in contact with the first transparent electrode layer and contains a liquid crystal in a precise pattern (figure 3) as claimed." Applicants respectfully disagree.

The spacer in Leupp is identified as elements 21, 23, 25, 33. However, the spacer in Leupp is not "a second layer of the at least one electrode" (claim 1), or "a second layer formed in contact with the first electrode layer" (claim 2), or "a high conductivity material on the surface of the electro-optical device; wherein the high conductivity material is in electrical contact with the transparent electrode material" (claim 17), or "a second electrode layer having a higher conductivity than the first electrode layer" (claim 18). The spacer in Leupp is none of these things.

Element 25 in Leupp is an insulating layer. (col. 4, lines 10-11). Insulating layer 25 is between electrodes 19 and spacer 33 because it is deposited over electrodes 19 and the aluminum portion 27 of spacer 33 is deposited on top of insulating layer 25. (Figs. 10, 13; col. 4, lines 10-13, 23-24). Spacer 33 in Leupp is just that – a spacer between front and back electrodes 15, 19. Leupp does not refer to spacer 25 as an electrode, or as part of an electrode, or as an element that is in contact or in electrical contact with an electrode. Furthermore, spacer 25 is not intended to be part of an electrode or in contact with the electrode on which it is formed as required by applicants' claims. The fact that Leupp's spacer 33 is not part of electrode 19 and is not in electrical contact with electrode 19 is demonstrated by the fact that insulating layer 25 is between electrode 19 and spacer 33. The presence of insulating layer 25 between spacer 25 and electrode 19 prevents spacer 33 from being part of electrode 19, from being in contact with electrode 19, and from being in electrical contact with electrode 19.

In fact, if spacer 25 were part of electrode 19, or if it were in contact with electrode 19, or if it were in electrical contact with electrode 19, spacer would short circuit the front and back electrodes and render the display device useless.

Since Leupp does not meet the recitations described above, independent claims 1, 2, 17, and 18 are seen as allowable and their allowance is solicited along with dependent claims 3-16, 19-30.

The Office Action did not expressly reject claims 3, 4, 7, 20 and 24 over prior art. Instead, the Office Action admitted that Leupp does not show the features recited in those claims, but contended "it is notoriously well known. . .to use a polyamide based material for the spacer layer in an LCD device" and that is therefore "would have been obvious. . .to use a polyamide based material for the second layer." Assuming the Office Action intended to reject these claims as being unpatentable over Leupp in view of "notoriously well known" prior art, the rejection is respectfully traversed. As demonstrated above, independent claims 1, 2, 17, 18 do not recite a spacer. Therefore, relying upon allegedly "notoriously well known" prior art showing that polyamide based material can be used for a spacer layer in an LCD device is inapplicable. Accordingly, applicant requests that reconsideration be given to claims 3, 4, 7, 20, and 24 and that they be allowed.

Similarly, the Office Action did not expressly reject claim 16 over prior art. Instead, the Office Action admitted that Leupp does not disclose using a powder deposition material for the liquid, as recited in claim 16. The Office Action took "Official Notice of the equivalence of the liquid crystal material and the powder deposition material for their use in the display art." Assuming the Office Action intended to reject this claim as being unpatentable over Leupp in view of prior art about which the Office Action took Official Notice, the rejection is respectfully traversed.

With respect to the bases to the rejections of claims 3, 4, 7, 20, 24 and claim 16, a memorandum dated February 21, 2002 from Stephen G. Kunin, Deputy Commissioner for Patent Examination Policy states the conditions under

which the U.S. Patent and Trademark Office may, and may not, rely on facts which are not of record as common knowledge and when it may take Official Notice. Mr. Kunin's Memorandum stated, in part:

> Official Notice without documentary evidence to support an examiner's conclusion is permissible only in some circumstances. . .Official Notice unsupported by documentary evidence should only be taken by the examiner where the facts asserted to be well-known, or to be common knowledge in the art are capable of instant and unquestionable demonstration as being well-known. (emphasis in original)

For example, Mr. Kunin stated, it might not be unreasonable to take Official Notice of facts in a first Office Action

> by asserting that certain limitations in a dependent claim are old and well known expedients in the art without the support of documentary evidence provided the facts so noticed are of notorious character and serve only to "fill in the gaps". . . . (emphasis in original)

> It is never appropriate to rely solely on "common knowledge" in the art without evidentiary support in the record, as the principal evidence upon which a rejection was based.

Accordingly, applicant respectfully disagrees with the assertion of Official Notice and common knowledge.

The prior art made of record and not relied upon is not considered any more pertinent to applicant's disclosure than that already cited.

For all the foregoing reasons, applicant respectfully solicits allowance of the entire application.

Respectfully Submitted,

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Enclosures:
Version with markings to show changes made

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The Assistant Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. 18-0350 of any fees associated with this communication.

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August 6, 2002

Kenneth N. Nigon

VERSION WITH MARKINGS TO SHOW CHANGES MADE

SPECIFICATION:

Specification at page 2:

[0008] What has been missing in tiled displays is a fabrication technology that allows a display to be constructed so that pixels can be brought up to the very edge (actually, with-in 1/2 pixel spacing period of the edge), while at the same time allowing for electronics to address each tile, even those tiles completely surrounded by other tiles. Two barriers to implementing the tiled approach have been: 1) eliminating the visibility of the seams between tiles, and 2) providing electrical access to the pixels.

Specification at page 8:

[0052] An exemplary display structure according to the present invention may be formed in two parts: a display section and an electronics section. These two parts may be made separately and then joined to form a complete tile. The exemplary display section consists of a transparent glass layer on which ~~are~~ transparent column electrodes are deposited. The OLED material is deposited onto these layers, as the active (i.e., light emitting) medium. Row electrodes are deposited as the final display layer. Additional layers such as blocking or passivation layers may be present to improve the function or life of the display layers. The transparent electrode is preferably the hole-injecting electrode and the other electrode is preferably the electron-injecting electrode. The OLED materials between the electrodes are preferably conjugated polymer materials that are applied by thick film processes, however, small molecule materials can alternatively be applied by various thin film deposition techniques. The layers are patterned so that there is electrical access to each row and column at one or more points.

Specification at page 17:

[0083] As shown in Figure 5, this spacing of the pixels leaves room along the edges of the display for the vias 520 and 522 to connect to the row and column electrodes of the pixel without interfering with the regular spacing of the pixels across tile boundaries. In the exemplary embodiment shown in Figure 5, the distance d_e, which is the distance from the active region 526 to the edge of the tile, is approximately twice the distance d_I which is the internal distance from the edge of the active area of the pixel 526 to the pixel boundary ~~522~~ 622 or ~~524~~624.

Specification at page 18:

[0086] The displays described above have been, in general, monochrome displays. The pixels have a single emissive area which is controlled by a single row and column electrode pair. Color pixels may be implemented as shown in Figures 6A and 6B. Figure 6A shows a single pixel having separate red (R) 820, green (G) 822 and blue (B) 824 sub-pixels. The three sub-pixels 820, 822 and 824 each has a respective column electrode (not shown) which is connected to the electronics section by the vias 810, 812 and 814, respectively. A single row electrode (not shown) is used by all three of the sub pixels. This row electrode is coupled to the electronics section by the via 816, shown in phantom. The geometry of the triple sub-pixel structure is defined by ~~D_H~~D_{SH}, the height of the sub-pixel, dsw, the width of the sub-pixel, and d_e, the distance from the active sub-pixel areas to the edge of the pixel area. For one exemplary embodiment of the invention, these dimensions are given in Table 1 in terms of the pixel pitch, P.

Table 1

d_{SH}	.5P
dsw	.16P
d_e	.25P

Specification at page 24:

[0105] It should be noted, with regard to the exemplary electrode structures illustrated in Figures 9A-D, that if the second layer ~~2101~~ 2102 is conductive and electrically coupled to the first electrode layer, then the first electrode layer ~~2102~~ 2101 does not need to be continuous. This attribute may be particularly advantageous in the case where the material of the first electrode layer exhibits an ~~undesirably~~ undesirable property, such as mechanical instability or poor conductivity. Alternatively the first electrode layer may be continuous and the second discontinuous.

CLAIMS:

1. (Amended) A method of depositing at least one island of a liquid electronic material in a precise pattern on at least one electrode on a surface comprising the steps of;

forming a first layer of the at least one electrode on the surface to provide at least one electrical contact to the at least one island;

forming a second layer of the at least one electrode on a portion of the first layer of the at least one electrode substantially surrounding the precise pattern of the at least one island; and

depositing the liquid material on the at least one electrode so that the second layer of the at least one electrode constrains the liquid electronic material in the precise pattern.

wherein the fluid is a liquid deposited material.